REMARKS/ARGUMENTS

The Present Invention and the Pending Claims

Claims 1-4, 7, 12, 13, and 17-19 are pending and are directed to a compound of formula (I), a composition thereof, a method of preparing, and a method of use thereof.

Summary of the Claim Amendments

Claims 1-4, 7, 12, and 13 have been amended to delete non-elected subject matter. Claims 5, 6, and 11 have been canceled as directed to non-elected subject matter. Claims 14-16 also have been canceled. Claim 13 has been amended (i) to delete the term "prophylactically" and (ii) to recite "type II diabetes or obesity." Claims 17-19 have been added and are the same as amended claim 13 except for dependency on claims 2-4, respectively. No new matter has been added by way of these amendments.

Summary of the Office Action

The restriction requirement has been maintained with respect to Group III, but the subject matter of Groups I and II has been joined for examination. The Examiner objects to claims 1-4, 7, and 12 for containing non-elected subject matter. Claims 13-16 have been rejected under 35 U.S.C. § 112, first paragraph, as allegedly lacking enablement. Claims 15 and 16 have been rejected under 35 U.S.C. § 112, second paragraph, as allegedly indefinite. Reconsideration of the pending claims is hereby requested.

Information Disclosure Statement

Applicants thank the Examiner for acknowledging receipt of the Information Disclosure Statement dated September 1, 2006. The Form PTO-1449 was attached to the Office Action and initialed by the Examiner, thereby acknowledging consideration of references AA-AI and AL-AW. It is noted that references AJ (WO 99/61431) and AK (WO 02/30801) were crossed out on the Form PTO-1449. Although these references are not in English, English abstracts were submitted for these references. According to the Examiner,

the English abstracts were too general in their description to ascertain the full disclosure of references AJ and AK.

In response, Applicants point out that references AJ and AK have English language counterparts as follows:

Reference	Patent Document	English Language Counterpart
AJ	WO 99/61431	U.S. Patent 6,548,481 B1 (Reference AG)
AK	WO 02/30891	U.S. Patent 6,849,622 B2 (Reference AH)

Both of these English language counterparts are already of record (as references AG and AH). Accordingly, Applicants respectfully request that the Examiner acknowledge consideration of references AJ and AK.

Discussion of the Restriction Requirement

The restriction requirement has been maintained with respect to Group III, but the Examiner has joined the subject matter of Groups I and II. Therefore, the subject matter under examination is a compound of formula (I), in which m+n is 2, p is 0 or 1, Y is S, and X is CHR^3.

The subject matter of Group III (i.e., claims 5, 6, and 11 and other non-elected subject matter from claims 1-4, 7, and 12-16) have been canceled. Applicants maintain the right to pursue the non-elected subject matter in a divisional application.

Discussion of the Claim Objection

The Examiner objects to claims 1-4, 7, and 12 for containing non-elected subject matter. Claims 1-4, 7, and 12 have been amended to delete non-elected subject matter. Accordingly, this objection has been rendered moot.

Discussion of the Enablement Rejection

Claims 13-16 allegedly lack enablement. Insomuch as claims 14-16 have been canceled, the following discussion pertains to claim 13.

To advance prosecution, and not in acquiescence of the rejection, claim 13 has been amended to recite the therapeutic treatment of type II diabetes or obesity comprising administering a compound of formula (I). The Office Action indicates that the specification provides guidance for the therapeutic treatment of non-insulin dependent diabetes (page 4, item (6)).

The Office Action states that Deacon et al. (*Journal of Clinical Endocrinology and Metabolism, 80*: 952-957 (1995) (already of record as reference AR)) "shows that *in vivo* study of GLP-1 is needed" (page 3, item (3)). The statement to which the Office is pointing in Deacon et al. states that "the significance of these finding in terms of the underlying mechanisms of GLP-1 metabolism *in vivo* requires further study" (page 956, left column, lines 43-45). Applicants note that this statement in Deacon et al. indicates that the *in vivo* study of GLP-1 is required for the study of the GLP-1 metabolic mechanism. The statement is *not* suggesting the need to study the *in vivo* efficacy of a DPP-IV inhibitor.

Moreover, Knudsen et al. (*European Journal of Pharmacology*, vol. 318, 429-435 (1996) (already of record as reference AT)) states: "Further studies with chronic treatment are required in order to assess the problem of potential tachyphylaxis" (page 434, left column, lines 1-3 from the bottom). The term "tachyphylaxis" is defined as the "rapid appearance of progressive decrease in response to a given dose following repetitive administration of a pharmacologically or physiologically active substance" in Stedman's Medical Dictionary (24th ed. 1982) (see page 1406 submitted herewith, as well as a printout with the same definition from Stedman's Online Medical Dictionary submitted herewith). The definition means that at least the first administration will be *in vivo* responsive even in patients experiencing tachyphylaxis. Therefore, Applicants maintain that this description by Knudsen (referred to in the Office Action at page 3, item (3)) does not suggest that additional experiments to confirm the *in vivo* efficacy of a DPP-IV inhibitor are necessary.

The effectiveness of the DPP-IV inhibitor of the pending claims is fully supported by the specification and literature that was publicly available at the time the application was filed (see, e.g., U.S. Patents 6,548,481 and 6,849,622 (both of record)). Thus, based on the specification and the teachings of the literature, one of ordinary skill in the art would have been able to practice a method of therapeutically treating type II diabetes or obesity in a subject comprising administering to the subject an effective amount of the DPP-IV inhibitor of formula (I) at the time the application was filed.

In view of the foregoing, Applicants submit that method claim 13 is fully enabled by the specification, and this rejection should be withdrawn.

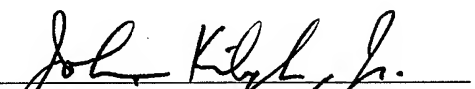
Discussion of the Indefiniteness Rejection

Claims 15 and 16 allegedly are indefinite. The Examiner contends that since the type of diabetes (i.e., type I or type II) is not recited in claims 15 and 16, the subject matter of claims 15 and 16 is unclear. To advance prosecution, claims 15 and 16 have been canceled. Applicants note that claim 13 has been amended to recite "type II diabetes." In view of these amendments, the indefiniteness rejection should be withdrawn.

Conclusion

Applicants respectfully submit that the patent application is in condition for allowance. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,



John Kilyk, Jr., Reg. No. 30,763
LEYDIG, VOIT & MAYER, LTD.
Two Prudential Plaza, Suite 4900
180 North Stetson Avenue
Chicago, Illinois 60601-6731
(312) 616-5600 (telephone)
(312) 616-5700 (facsimile)

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tabule (tab'ūl) [L. *tabula*]. Tablet.

ta'bun. Dimethylphosphoramidocyanidic acid, ethyl ester; an extremely potent cholinesterase inhibitor; he lethal dose for man is believed to be as low as 0.01 mg per kg.

tache (tash) [Fr. spot]. A circumscribed discoloration of the skin or mucous membrane, such as a macule or freckle.

t. blanche, *macula* albida.

t. bleuâtre, *macula* cerulea.

t. cérébrale, meningitic *streak.*

t. laiteuse, (1) milk *spot;* (2) *macula* albida.

t. méningéale, meningitic *streak.*

t. noir, a necrotic area covered with black crust, characteristic of the tick bite lesion in certain tick-borne diseases.

t. spina'le, a trophic bulla forming on the skin in certain cases of disease of the spinal cord.

tachetic (tă-ket'ik) [Fr. *tache,* spot]. Marked by bluish or brownish spots.

tachistesthesia (tă-kis'tes-the'zī-ah) [G. *tachistos,* very rapid, from *tachys,* rapid, + *aesthēsis,* perception. TACH-]. Recognition of light flicker.

tachistoscope (tă-kis'to-skōp) [G. *tachistos,* very rapid, fr. *tachys,* rapid, + *skopeō,* to view. TACH-]. An instrument used in experimental optics to determine the shortest exposure capable of making a conscious impression on the retina; it is on the plan of the movable shutter used in photography.

tachogram (tak'o-gram) [G. *tachos,* speed, + *gramma,* mark]. Record made by a tachometer.

tachograph (tak'o-graf) [G. *tachos,* speed, + *graphō,* to write]. A tachometer designed to provide a continuous record of speed or rate.

tachography (tă-kog'ră-fī) [G. *tachos,* speed, + *graphō,* to write]. The recording of speed or rate.

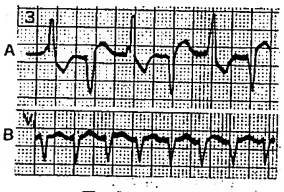
tachometer (tă-kom'ĕ-ter) [G. *tachos,* speed, + *metron,* measure]. An instrument for measuring speed or rate; *e.g.,* revolutions of a shaft, heart rate (cardiotachometer), arterial blood flow (hemotachometer), respiratory gas flow (pneumotachometer).

tachy- [G. *tachys,* quick, rapid. TACH-]. Combining form denoting rapid.

tachyarrhythmia (tak'ī-ă-rith'mī-ah) [tachy- + G. *a-* priv. + *rhythmos,* rhythm]. Any disturbance of the heart's rhythm, regular or irregular, resulting in a rate over 100 beats per minute.

tachyauxesis (tak'ī-awk-se'sis) [tachy- + G. *auxō,* to increase]. Type of growth in which a part grows more rapidly than the whole.

tachycardia (tak'ī-kar'dī-ah) [tachy- + G. *kardia,* heart]. Heart hurry; polycardia; tachyrhythmia; tachysystole; rapid beating of the heart, usually applied to rates over 100 per minute.



Tachycardia

A, bidirectional ventricular tachycardia; *B,* double tachycardia.

atrial t., auricular t.; paroxysmal t. originating in an ectopic focus in the atrium.

atrioventricular (A-V) nodal t., nodal t.; t. originating in the A-V junction.

auricular t., atrial t.

bidirectional ventricular t., ventricular t. in which the QRS complexes in the electrocardiogram are alternately mainly positive and mainly negative; many such cases may in fact represent A-V t. with alternating forms of aberrant ventricular conduction.

double t., the simultaneous t. of two ectopic t.'s, *e.g.,* atrial and A-V nodal t.

ectopic t., a t. originating in a focus other than the sinus node, *e.g.,* atrial, A-V nodal, or ventricular t.

essential t., persistent rapid action of the heart due to no discoverable organic lesion.

t. exophthal'mica, the rapid heart action occurring as one of the symptoms of exophthalmic goiter.

fetal t., a fetal heart rate of 160 or more beats per minute.

nodal t., atrioventricular nodal t.

paroxysmal t., recurrent attacks of t., with abrupt onset and termination, originating from an ectopic focus which may be atrial, A-V nodal, or ventricular.

sinus t., t. originating in the sinus node.

ventricular t., paroxysmal t. originating in an ectopic focus in the ventricle. See also torsade de pointes.

tachycar'diac. Relating to or suffering from excessively rapid action of the heart.

tachycrotic (tak'ī-krot'ik) [tachy- + G. *krotos,* a striking]. Relating to, causing, or characterized by a rapid pulse.

tachykinin (tak'ī-ki-nin). Any member of a group of polypeptides, widely scattered in vertebrate and invertebrate tissues, which have in common four of the five terminal amino acids: Phe-?-Gly-Lue-Met-NH_2; pharmacologically, they all cause hypotension in mammals, contraction of gut and bladder smooth muscle, and secretion of saliva.

tachyla'lia [tachy- + G. *lalia,* talking]. Tachylogia.

tachylogia (tak-ī-lo'jī-ah) [tachy- + G. *logos,* word]. Rapid or voluble speech. Also called tachylalia, tachyphasia, tachyphemia, tachyphrasia.

tachypacing (tak'ī-pa-sing). Rapid pacing of the heart by an artificial electronic pacemaker operating faster than 100 beats per minute.

tachyphagia (tak-ī-fa'jī-ah) [tachy- + G. *phagein,* to eat]. Rapid eating; bolting of food.

tachyphasia (tak-ī-fa'zī-ah) [tachy- + G. *phasis,* speaking]. Tachylogia.

tachyphemia (tak-ī-fe'mī-ah) [tachy- + G. *phēme*], speech]. Tachylogia.

tachyphrasia (tak-ī-fra'zī-ah) [tachy- + G. *phrasis,* speaking]. Tachylogia.

tachyphrenia (tak-ī-fre'nī-ah) [tachy- + G. *phrēn,* mind]. Rapidity of the mental processes.

tachyphylaxis (tak-ī-fi-lak'sis) [tachy- + G. *phylaxis,* protection]. Rapid appearance of progressive decrease in response following repetitive administration of a pharmacologically or physiologically active substance.

tachypnea (tak-ip-ne'ah) [tachy- + G. *pnoē* (*pnoiē*), breathing]. Polypnea; rapid breathing.

tachypsychia (tak-ī-si'kī-ah) [tachy- + G. *psychē,* mind]. Abnormally rapid action of psychological processes.

tachyrhythmia (tak-ī-rith'mī-ah) [tachy- + G. *rhythmos,* rhythm]. Tachycardia.

tachysterol (tă-kis'ter-ōl). A sterol formed upon ultraviolet irradiation of ergosterol or lumisterol (ring B is opened between C-9 and C-10).

tachysystole (tak-ī-sis'to-le) [tachy- + G. *systolē,* contracting]. Tachycardia.

tachyzoite (tak-ī-zo'īt) [tachy- + G. *zōon,* animal]. A rapidly multiplying stage of *Toxoplasma gondii* found in acute infections of toxoplasmosis.

tac'rine. 9-Amino-1,2,3,4-tetrahydroacridine; an anticholinesterase agent with nonspecific central nervous system stimulatory effects.

tactile (tak'til) [L. *tactilis,* fr. *tango,* pp. *tactus,* to touch]. Relating to touch or to the sense of touch.

taction (tak'shun) [L. *tactio,* fr. *tango,* see prec.]. 1. The sense of touch. 2. The act of touching.

tactom'eter [L. *tactus,* touch, + G. *metron,* measure]. Esthesiometer.

tactor [L. one who or that which touches]. A tactile end organ.

tac'tual. Relating to or caused by touch.

tac'tus [L.]. Touch; the sense of touch.

taenia (te'nī-ah) [L. fr. G. *tainia,* band, tape, a tapeworm. TEN-]. 1. A coiled, bandlike anatomical structure. See tenia (1). 2. Tenia (2); common name for a tapeworm,

especially of the ge
Taenia (te'nī-ah) [s
formerly included
restricted to those
cercus found in tiss
other animals of pr
T. africa'na, a ta
cysticercus of whicl
T. arma'ta, *T. soi*
T. confu'sa, a rare
unknown.
T. crassic'ollis, *T*
T. cucurbiti'na, *T*
T. demerarien'sis,
cariensis.
T. denta'ta, *T. so*
T. equi'na, *Anopl*
T. hom'inis, unus
T. hydatig'ena, a
and other carnivor
tenuicollis (*q.v.*), an
dogs.
T. iner'mis, *T. sa*
T. la'ta, *Diphyllo*
T. lophoso'ma, a
T. madagascarien'
gascariensis.
T. mediocanella'ta
T. min'ima, form
T. pellu'cida, *T.*
T. philippi'na, at
T. pisifor'mis, a c
other carnivores; th
adult worms were f
T. sagina'ta, *T.*
hookless, or unarm
eating insufficiently
Cysticercus bovis.

Taenia sa
A. proglottid or
gans (×1.7); *B,* scole

T. so'lium, *T. a*
pellucida; the pork,
acquired by eating i
Cysticercus cellulos
intestine may result
tissues, resulting in
T. taeniaefor'mis,
lis; one of the comm
larval form is calle
Taeniarhynchus (t
rhynchos, snout].

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tachyphylaxis (tak·i-fī-lak·sis)

Rapid appearance of progressive decrease in response to a given dose following repetitive administration of a pharmacologically or physiologically active substance.

[tachy- + G. *phylaxis,* protection]